

7/9/2016

Mr. Curt Lueckenhoff
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1607043

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 7/5/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker
Project Manager

WORK ORDER #: 1607043

Work Order Summary

CLIENT:	Mr. Curt Lueckenhoff Missouri Dept. of Natural Resources 2710 West Main Jefferson City, MO 65109	BILL TO:	Accounts Payable Missouri Dept. of Natural Resources P.O Box 176 Jefferson City, MO 65102
PHONE:	573-526-3363	P.O. #	3ESP161042
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	07/05/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	07/09/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (162931)	Modified TO-15	6.5 "Hg	5 psi
02A	D2 (162932)	Modified TO-15	6.5 "Hg	5 psi
03A	U1 (162933)	Modified TO-15	6.5 "Hg	4.7 psi
04A	U2 (162934)	Modified TO-15	5.9 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 07/09/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1607043

Four 6 Liter Summa Canister (100% Certified) samples were received on July 05, 2016. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: D1 (162931)

Lab ID#: 1607043-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.84	2.8
Freon 11	0.17	0.23	0.96	1.3
Ethanol	0.86	4.6	1.6	8.6
Acetone	0.86	11	2.0	26
Hexane	0.17	0.17	0.60	0.61
2-Butanone (Methyl Ethyl Ketone)	0.86	2.2	2.5	6.5
Heptane	0.17	0.17 J	0.70	0.69 J
1,4-Dioxane	0.17	1.0	0.62	3.6

Client Sample ID: D2 (162932)

Lab ID#: 1607043-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.84	2.6
Freon 11	0.17	0.24	0.96	1.3
Ethanol	0.86	14	1.6	26
Acetone	0.86	6.2	2.0	15
2-Propanol	0.86	3.4	2.1	8.2
Methylene Chloride	0.34	0.35	1.2	1.2

Client Sample ID: U1 (162933)

Lab ID#: 1607043-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.55	0.84	2.7
Freon 11	0.17	0.23	0.95	1.3
Ethanol	0.84	3.6	1.6	6.7
Acetone	0.84	6.2	2.0	15
Methylene Chloride	0.34	3.4	1.2	12
2-Butanone (Methyl Ethyl Ketone)	0.84	1.0	2.5	3.0
Toluene	0.17	0.80	0.64	3.0

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: U2 (162934)

Lab ID#: 1607043-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.82	2.6
Freon 11	0.17	0.25	0.94	1.4
Ethanol	0.84	480 E	1.6	910 E
Acetone	0.84	16	2.0	38
2-Propanol	0.84	130 E	2.0	310 E
Methylene Chloride	0.33	1.6	1.2	5.4
Hexane	0.17	0.60	0.59	2.1
2-Butanone (Methyl Ethyl Ketone)	0.84	1.4	2.5	4.1
Chloroform	0.17	0.17	0.82	0.85
Cyclohexane	0.17	1.3	0.57	4.5
Heptane	0.17	0.65	0.68	2.7
Toluene	0.17	3.5	0.63	13
Ethyl Benzene	0.17	0.39	0.72	1.7
m,p-Xylene	0.17	1.2	0.72	5.2
o-Xylene	0.17	0.51	0.72	2.2
Styrene	0.17	0.23	0.71	1.0



Air Toxics

Client Sample ID: D1 (162931)

Lab ID#: 1607043-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070608	Date of Collection:	6/28/16 1:45:00 PM
Dil. Factor:	1.71	Date of Analysis:	7/6/16 01:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.84	2.8
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.17	0.23	0.96	1.3
Ethanol	0.86	4.6	1.6	8.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	11	2.0	26
2-Propanol	0.86	Not Detected	2.1	Not Detected
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	0.17	0.60	0.61
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	2.2	2.5	6.5
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	0.17 J	0.70	0.69 J
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	1.0	0.62	3.6
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	Not Detected	0.64	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: D1 (162931)

Lab ID#: 1607043-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070608	Date of Collection:	6/28/16 1:45:00 PM
Dil. Factor:	1.71	Date of Analysis:	7/6/16 01:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: D2 (162932)

Lab ID#: 1607043-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070609	Date of Collection:	6/28/16 1:55:00 PM
Dil. Factor:	1.71	Date of Analysis:	7/6/16 02:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.84	2.6
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.17	0.24	0.96	1.3
Ethanol	0.86	14	1.6	26
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	6.2	2.0	15
2-Propanol	0.86	3.4	2.1	8.2
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	0.35	1.2	1.2
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	Not Detected	0.70	Not Detected
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	Not Detected	0.64	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected

Client Sample ID: D2 (162932)

Lab ID#: 1607043-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070609	Date of Collection: 6/28/16 1:55:00 PM
Dil. Factor:	1.71	Date of Analysis: 7/6/16 02:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: U1 (162933)

Lab ID#: 1607043-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070610	Date of Collection:	6/28/16 2:00:00 PM
Dil. Factor:	1.69	Date of Analysis:	7/6/16 02:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.55	0.84	2.7
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.23	0.95	1.3
Ethanol	0.84	3.6	1.6	6.7
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	6.2	2.0	15
2-Propanol	0.84	Not Detected	2.1	Not Detected
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	3.4	1.2	12
Methyl tert-butyl ether	0.17	Not Detected	0.61	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.0	2.5	3.0
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Cyclohexane	0.17	Not Detected	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	Not Detected	0.69	Not Detected
Trichloroethene	0.17	Not Detected	0.91	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	Not Detected	0.61	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.69	Not Detected
Toluene	0.17	0.80	0.64	3.0
trans-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.5	Not Detected



Client Sample ID: U1 (162933)

Lab ID#: 1607043-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070610	Date of Collection:	6/28/16 2:00:00 PM
Dil. Factor:	1.69	Date of Analysis:	7/6/16 02:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.78	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	Not Detected	0.73	Not Detected
o-Xylene	0.17	Not Detected	0.73	Not Detected
Styrene	0.17	Not Detected	0.72	Not Detected
Bromoform	0.17	Not Detected	1.7	Not Detected
Cumene	0.17	Not Detected	0.83	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.83	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.83	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.83	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.83	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: U2 (162934)

Lab ID#: 1607043-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070611	Date of Collection:	6/28/16 1:10:00 PM
Dil. Factor:	1.67	Date of Analysis:	7/6/16 03:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.82	2.6
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.2	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.25	0.94	1.4
Ethanol	0.84	480 E	1.6	910 E
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.84	16	2.0	38
2-Propanol	0.84	130 E	2.0	310 E
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	1.6	1.2	5.4
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Hexane	0.17	0.60	0.59	2.1
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.4	2.5	4.1
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.17	0.17	0.82	0.85
1,1,1-Trichloroethane	0.17	Not Detected	0.91	Not Detected
Cyclohexane	0.17	1.3	0.57	4.5
Carbon Tetrachloride	0.17	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	Not Detected	0.53	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	0.65	0.68	2.7
Trichloroethene	0.17	Not Detected	0.90	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.77	Not Detected
1,4-Dioxane	0.17	Not Detected	0.60	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.68	Not Detected
Toluene	0.17	3.5	0.63	13
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.91	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.4	Not Detected



Client Sample ID: U2 (162934)

Lab ID#: 1607043-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070611	Date of Collection:	6/28/16 1:10:00 PM
Dil. Factor:	1.67	Date of Analysis:	7/6/16 03:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	0.39	0.72	1.7
m,p-Xylene	0.17	1.2	0.72	5.2
o-Xylene	0.17	0.51	0.72	2.2
Styrene	0.17	0.23	0.71	1.0
Bromoform	0.17	Not Detected	1.7	Not Detected
Cumene	0.17	Not Detected	0.82	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.1	Not Detected
Propylbenzene	0.17	Not Detected	0.82	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.82	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	8.9	Not Detected

E = Exceeds instrument calibration range.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1607043-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070607	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/6/16 12:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1607043-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070607	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/6/16 12:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
1,1,2,2-Tetrachloroethane	0.10	Not Detected	0.69	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1607043-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/6/16 08:38 AM

Compound	%Recovery
Freon 12	104
Freon 114	98
Chloromethane	99
Vinyl Chloride	101
1,3-Butadiene	100
Bromomethane	104
Chloroethane	104
Freon 11	100
Ethanol	111
Freon 113	96
1,1-Dichloroethene	100
Acetone	100
2-Propanol	108
Carbon Disulfide	105
3-Chloropropene	112
Methylene Chloride	96
Methyl tert-butyl ether	104
trans-1,2-Dichloroethene	99
Hexane	103
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	103
Tetrahydrofuran	107
Chloroform	103
1,1,1-Trichloroethane	102
Cyclohexane	102
Carbon Tetrachloride	120
2,2,4-Trimethylpentane	105
Benzene	101
1,2-Dichloroethane	103
Heptane	110
Trichloroethene	104
1,2-Dichloropropane	105
1,4-Dioxane	106
Bromodichloromethane	113
cis-1,3-Dichloropropene	114
4-Methyl-2-pentanone	117
Toluene	106
trans-1,3-Dichloropropene	120
1,1,2-Trichloroethane	105
Tetrachloroethene	102
2-Hexanone	116

Client Sample ID: CCV

Lab ID#: 1607043-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/6/16 08:38 AM

Compound	%Recovery
Dibromochloromethane	123
1,2-Dibromoethane (EDB)	110
Chlorobenzene	106
Ethyl Benzene	110
m,p-Xylene	112
o-Xylene	113
Styrene	117
Bromoform	128
Cumene	117
1,1,2,2-Tetrachloroethane	113
Propylbenzene	108
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	130
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	101
Hexachlorobutadiene	97

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	106	70-130

Client Sample ID: LCS

Lab ID#: 1607043-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/6/16 09:22 AM

Compound	%Recovery	Method Limits
Freon 12	112	70-130
Freon 114	109	70-130
Chloromethane	105	70-130
Vinyl Chloride	111	70-130
1,3-Butadiene	105	70-130
Bromomethane	105	70-130
Chloroethane	114	70-130
Freon 11	106	70-130
Ethanol	117	70-130
Freon 113	99	70-130
1,1-Dichloroethene	106	70-130
Acetone	103	70-130
2-Propanol	117	70-130
Carbon Disulfide	96	70-130
3-Chloropropene	111	70-130
Methylene Chloride	100	70-130
Methyl tert-butyl ether	107	70-130
trans-1,2-Dichloroethene	104	70-130
Hexane	109	70-130
1,1-Dichloroethane	105	70-130
2-Butanone (Methyl Ethyl Ketone)	107	70-130
cis-1,2-Dichloroethene	104	70-130
Tetrahydrofuran	109	70-130
Chloroform	107	70-130
1,1,1-Trichloroethane	106	70-130
Cyclohexane	107	70-130
Carbon Tetrachloride	119	70-130
2,2,4-Trimethylpentane	111	70-130
Benzene	103	70-130
1,2-Dichloroethane	104	70-130
Heptane	115	70-130
Trichloroethene	106	70-130
1,2-Dichloropropane	107	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	115	70-130
cis-1,3-Dichloropropene	110	70-130
4-Methyl-2-pentanone	119	70-130
Toluene	109	70-130
trans-1,3-Dichloropropene	119	70-130
1,1,2-Trichloroethane	105	70-130
Tetrachloroethene	104	70-130
2-Hexanone	118	70-130

Client Sample ID: LCS

Lab ID#: 1607043-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/6/16 09:22 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	122	70-130
1,2-Dibromoethane (EDB)	110	70-130
Chlorobenzene	104	70-130
Ethyl Benzene	110	70-130
m,p-Xylene	110	70-130
o-Xylene	113	70-130
Styrene	117	70-130
Bromoform	130	70-130
Cumene	114	70-130
1,1,2,2-Tetrachloroethane	111	70-130
Propylbenzene	105	70-130
4-Ethyltoluene	95	70-130
1,3,5-Trimethylbenzene	106	70-130
1,2,4-Trimethylbenzene	102	70-130
1,3-Dichlorobenzene	100	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	132 Q	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	92	70-130
Hexachlorobutadiene	84	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1607043-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070604	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/6/16 10:06 AM

Compound	%Recovery	Method Limits
Freon 12	110	70-130
Freon 114	108	70-130
Chloromethane	104	70-130
Vinyl Chloride	108	70-130
1,3-Butadiene	103	70-130
Bromomethane	106	70-130
Chloroethane	114	70-130
Freon 11	106	70-130
Ethanol	117	70-130
Freon 113	98	70-130
1,1-Dichloroethene	103	70-130
Acetone	102	70-130
2-Propanol	116	70-130
Carbon Disulfide	96	70-130
3-Chloropropene	109	70-130
Methylene Chloride	101	70-130
Methyl tert-butyl ether	107	70-130
trans-1,2-Dichloroethene	104	70-130
Hexane	107	70-130
1,1-Dichloroethane	104	70-130
2-Butanone (Methyl Ethyl Ketone)	107	70-130
cis-1,2-Dichloroethene	102	70-130
Tetrahydrofuran	109	70-130
Chloroform	105	70-130
1,1,1-Trichloroethane	104	70-130
Cyclohexane	106	70-130
Carbon Tetrachloride	118	70-130
2,2,4-Trimethylpentane	112	70-130
Benzene	103	70-130
1,2-Dichloroethane	103	70-130
Heptane	111	70-130
Trichloroethene	104	70-130
1,2-Dichloropropane	105	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	115	70-130
cis-1,3-Dichloropropene	107	70-130
4-Methyl-2-pentanone	117	70-130
Toluene	108	70-130
trans-1,3-Dichloropropene	118	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	103	70-130
2-Hexanone	114	70-130

Client Sample ID: LCSD

Lab ID#: 1607043-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20070604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/6/16 10:06 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	123	70-130
1,2-Dibromoethane (EDB)	109	70-130
Chlorobenzene	104	70-130
Ethyl Benzene	110	70-130
m,p-Xylene	109	70-130
o-Xylene	111	70-130
Styrene	116	70-130
Bromoform	130	70-130
Cumene	112	70-130
1,1,2,2-Tetrachloroethane	112	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	97	70-130
1,3,5-Trimethylbenzene	106	70-130
1,2,4-Trimethylbenzene	103	70-130
1,3-Dichlorobenzene	99	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	130	70-130
1,2-Dichlorobenzene	99	70-130
1,2,4-Trichlorobenzene	90	70-130
Hexachlorobutadiene	82	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130